

### **REMARKS/ARGUMENTS**

These remarks are submitted in response to the Office Action mailed February 23, 2007 (Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. However, the Office is expressly authorized to charge any fees and credit any overpayments to deposit account 50-0951.

In the Office Action, Claims 1-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,764,852 to Williams, *et al.* (hereinafter Williams), in view of Japanese Patent Publication No. JP10091184A to Kawada, *et al.* (hereinafter Kawada). Additionally, Claims 1-12 were rejected under 35 U.S.C. § 112, first paragraph, it being asserted in the Office Action that the claims lack enablement. Furthermore, Claims 1-12 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

#### **Rejections under § 101**

As previously stated, Claims 1-12 were rejected as being directed to non-statutory matter. In regards to Claims 7-12, the claims have been amended to claim the series of steps to be performed by a computer with a computer-readable medium and are now directed at statutory subject matter.

However, in regards to Claims 1-6, Applicants respectfully disagree with the rejection in the Office Action. Claims 1-6 are directed at a method for identifying excess internal noise generated by components of a computer system and are not claimed as descriptive or functional steps of a computer program. For example, Claim 1 is directed at a method of comparing a background noise generated by a computer system (silence sound) and a noise generated by an internal component of a computer when activated (isolated or component sound). The tangible result is logging a result of the comparison when a difference exceeding a preset threshold is detected between the sounds; that is,

providing an identification of internal components generating noise. Accordingly, Applicants respectfully submit that Claims 1-6 are directed at statutory subject matter and respectfully request withdrawal of this rejection.

**Rejections under § 112, First Paragraph**

As previously stated, Claims 1-12 were rejected for lack of enablement of recording an isolated noise sample while operating a computer system component in isolation. In particular, the Office Action states that the Specification does not provide an adequate disclosure describing how to operate components in isolation to obtain such isolated noise samples. Applicants respectfully disagree. However, in order to expedite prosecution, Applicants have amended Claims 1-12 to remove any reference to "isolated" components. Therefore, the claims now recite the limitation that a recording is made while operating a component. As acknowledged on page 2 of the Office Action, support for such a limitation is located throughout the Specification.

**Amendments to the Claims**

Applicants have amended independent Claims 1 and 7 to further emphasize certain aspects of the invention. In particular, Claims 1 and 7 now include the further limitation of performing an excess noise test to determine if noise from an internal component will interfere with speech recognition of the computer system. Claims 1 and 7 has also been amended to specify that a comparison of component noise and background system noise (silence sound) is logged or stored whenever the difference between the component noise and the background noise exceeds a threshold limit. As discussed below, the claim amendments are fully supported throughout the Specification. No new matter has been introduced through the amendments.

*Aspects Of Applicants' Invention*

At this juncture, it may be useful to reiterate certain aspects of Applicants' invention. One embodiment of the invention, exemplified by amended Claim 1, is a method for identifying excess noise generated by one or more components in a computer system of a speech recognition system.

The method can include recording a silence sound sample during a period of inactivity of the internal components of the computer system. The method can also include performing an excess noise test for one of the components, where the excess noise test can comprise a method of operating one of the internal components to test for excess noise which interferes with a speech recognition capability of the computer system. During the noise test, the method can include recording a component sound sample. The method can also include comparing the signal characteristics of the silence sound sample with signal characteristics of the component sound sample; and logging a result of the comparison of the signal characteristics of the silence sound sample and the component sound sample when the signal characteristics of the component sound silence sample differ by a preset threshold from the signal characteristics of the silent sound sample.

In some embodiments, the method can include generating a list of internal components to be tested and designating an excess noise test for each internal component and/or a possible remedy in case noise from the internal component is detected. In other embodiments, the method can include determining whether at least one other internal component has not yet been tested and repeating the steps in the method to test the untested internal component.

*The Claims Define Over The Prior Art*

As already noted, independent Claims 1 and 7 were rejected as being unpatentable over Williams in view of Kawada. Williams discloses a method and apparatus for analyzing audio input events in a speech recognition system. (See Abstract) Kawada discloses a system and method for detecting sounds based on a threshold value, where the threshold value is adjusted based on a background level of noise. (See "SOLUTION") However, Applicants respectfully disagree and respectfully submit that Williams and Kawada fail to disclose each and every element of the amended claims 1-12.

First, Williams and Kawada fail to disclose or suggest any type of system or method for identifying noise generated by an *internal* component of a computer in a speech recognition system. Kawada only discloses detecting an increase in background sounds. In particular, Kawada discloses detecting sounds from the "surroundings" of the speech recognition system, not from the system itself, much less the internal components of a computer in such a system. Williams discloses detection of sounds from peripheral *external* devices, but fails to disclose or suggest detection of sounds for components that are internal to the computer of the speech recognition system. Furthermore, both Kawada and Williams are directed to systems and methods for detecting background or external noises. In contrast, Claims 1 and 7 explicitly recite the testing and detection of sounds from internal devices; sounds from such devices are not easily identifiable by users. Applicants' invention allows noise from internal components to be identified, and the user thus can subsequently intervene to reduce noise from such sources.

Second, Williams and Kawada fail to disclose performing a noise test for a component comprising a method of operating the component to test for excess noise that interferes with a speech recognition capability of the computer system. Williams fails to disclose operating a component in a specific manner to test for noise. Williams only discloses that for a non-speech event to be detected, the user must identify each of the following: the component, the interrupt associated with the component, a port for the

component, and a sound detection time for the component. However, none of these user-supplied identification inputs specify a method for operating the device in order to determine whether noise from the device will interfere with speech recognition. Consequently, Williams, at best, only discloses a method for how to setup a component for testing without providing a method for actually testing a component, as acknowledged on Page 5 of the Office Action. However, such a testing method is asserted in the Office Action on Page 5 to be disclosed by Kawada.

Applicants respectfully disagree. Kawada only discloses a speech detection circuit that uses an adjustable threshold value to determine whether a sound event has occurred. Nowhere does Kawada disclose or suggest that a component would be operated in a specific manner to test the component for noise that can interfere with speech recognition. Therefore, although Kawada discloses using a threshold value to determine if noise exists, Kawada fails to disclose any method or affirmative step for generating the noise.

In contrast, Claims 1 and 7 explicitly recite the limitation that the internal component is operated according to an excess noise test and that the operation is in a manner that will determine if the internal component is generating noise that will interfere with speech recognition process of the system. For example, in order to test potential noise from motors in an internal floppy, hard, or CD-ROM drive, an excess noise test can require data to be accessed in order to exercise the drive and to generate and record sounds from the internal drive. Applicants respectfully submit that one of ordinary skill in the art would be able to determine internal component operations that would be likely to generate noise that could interfere with speech recognition and determine an appropriate excess noise test to perform.

Third, Williams and Kawada fail to disclose or suggest any method to store possible remedies in response to detecting excess noise from a component. Kawada discloses adjusting a threshold value for sound detection in response to an increase or

decrease in background noise. However, Kawada does not disclose or suggest providing or suggesting a remedy to remove or reduce the background noise. Consequently, Kawada provides a method and system for limiting detection of background noise, not for identifying and possibly removing or repairing the cause of the excess noise. Such a feature is asserted on Page 5 of the Office Action to be disclosed by Williams.

Applicants respectfully disagree. Williams only discloses how to respond to the occurrence of a non-speech event, such as an increase in background noise. For example, as noted in the Office Action, an increase in background noise can be used to signal the system to issue a "Save" command. However, nowhere does Williams disclose or suggest providing remedies to reduce or eliminate sources of excess noise. Therefore, Kawada and Williams, at most, only provide *reactive* systems and method for reducing a chance that background noise will be recognized as a command by basically training the system to ignore such noises. However, because of the random nature of some types of background noises, one of ordinary skill in the art would recognize that such methods cannot eliminate all issues related to ongoing background noises. For example, if a sound occurs that the system is not trained to recognize, the sound may be recognized as a speech command. In contrast, as recited in claims 2 and 8, a *proactive* approach is provided to determine internal components causing problems and prompting a user to repair or remove the causes of such noise.

Accordingly, Williams and Kawada, in combination with each other or any other reference of record, fail to disclose or suggest every feature recited in Claims 1, 2, 7, and 8, as amended. Applicants respectfully submit, therefore, that Claims 1, 2, 7, and 8 are allowable over the cited references. Applicants further respectfully submit that whereas the remaining claims each depend from one of Claims 1, 2, 7, or 8 while reciting additional features, these dependent claims are likewise allowable over the cited references art.

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in response to Office Action of February 23, 2007  
Docket No. 6169-95

### CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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